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09/762,022	03/23/2001	Werner Muller	C70361	7328

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EXAMINER

SNIDER, THERESA T

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 05/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/762,022

Applicant(s)

MULLER, WERNER

Examiner

Theresa T. Snider

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6. 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 4A(page 14, line 16). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to because figure 1 has 2, '2's directed to different elements. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:

Exemplary of such:

To provide for greater ease in reading, it is suggested Applicant insert the appropriate headings in the specification.

Page 1, line 26, 'WO 97/01298,' should be deleted because it is also cited in line 27.

Page 2, line 8, 'materials' should be replaced with 'material'.

Page 15, line 11, 'The radiation' should be replaced with 'the radiation'.

Page 20, line 15, it is unclear as to what is meant by 'ca.'.

Appropriate correction is required.

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4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

5. Claims 3 and 5 areas objected to because of the following informalities: claim 3, line 2, 'plastics materials' should be replaced with 'plastic material'; claim 5, line 2, 'a material' should be replaced with 'material'. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Exemplary of such:

Claims 1-17, it is suggested 'characterised in that' be amended to more closely correspond with standard U.S. practice.

Claim 1, line 7, 'the means to direct' lacks proper antecedent basis;

Line 8, 'the means to collect' lacks proper antecedent basis;

Lines 7-8, is the device capable of both directing and collecting light or just one or the other?

Line 14, is the 'material which is transparent' to light different than that in line 9 or one in the same?

Line 15, it is unclear as to how one can have internal reflection within the core if both the core and sheath are constructed from a transparent material;

Line 17, the use of 'and/or' is confusing. What is it in addition to or in place of?

Line 17, it is unclear as to whether the 'a sheath' is in addition to that of line 12 or one in the same;

Line 17, it is unclear as to where the sheath is located with respect to the sheath of line 12.

Claims 2-16, line 1, 'A' should be replaced with 'The';

Claims 2-3, line 1, it is unclear as to which 'material which is transparent' is being referred; that of claim 1, line 9 or line 14?

Claim 5, the light travels through both the core of claim 1 and the head?

Claim 6, it is unclear as to whether the 'optical fibers' are in addition to the cores of claim 1 or one in the same.

Claim 7, line 2, 'the core material' lacks proper antecedent basis;

Line 2, 'the sheath material' lacks proper antecedent basis;

Line 2, it is unclear which sheath 'the sheath material' refers; that of claim 1, line 14 or line 17?

Claim 12, line 1, 'the filaments' lack proper antecedent basis;

Lines 3 and 4, it is unclear as to which 'sheath' 'the sheath' refers. That of claim 1 or claim 12?

Claim 13, line 1, 'the filament(s)' lacks proper antecedent basis;

Line 2, it is unclear as to whether the 'a core' is in addition to that of claim 1 or one in the same.

Claim 17, line 2, it is unclear as to whether 'a core' is in addition to that in claim 1 or one in the same;

Line 4, 'the monolithic body of the toothbrush head' lacks proper antecedent basis; claim 1 discloses the monolithic body of the sheath.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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9. Claims 1, 2, 6, 8, 11-13 and 15-16 are rejected under 35 U.S.C. 102(a,e) as being clearly anticipated by Polaert et al..

As noted in the above 112, 2nd rejection, it is unclear as to whether the fiber is in addition to the core or an example of the core. From the figures, it is believed that the fiber IS the core, in one embodiment, therefore the following rejection.

Polaert et al. discloses use of an optical fiber in a toothbrush head to direct and collect radiation to a tooth surface (col. 3, lines 49-51 and 66-67 and col. 4, lines 1-5).

With respect to claim 2, Polaert et al. discloses the core material being transparent to radiation in the wavelength range of 400-630nm (col. 3, lines 47 and 64-65).

With respect to claim 8, Polaert et al. discloses the core having a generally L-shape (fig. 6, #4).

With respect to claim 11, Polaert et al. discloses the core having a surface that is perpendicular to the bristle direction (fig. 6, #4, area abutting to #13).

With respect to claim 12, Polaert et al. discloses the use of an optical fiber, a device known to have a core and sheath (col. 3, line 49).

With respect to claim 13, Polaert et al. discloses optical connection to the core (col. 4, lines 32-45).

With respect to claim 15, Polaert et al. discloses one or more lenses (fig. 6, #3).

With respect to claim 16, Polaert et al. discloses a toothbrush having the head (fig. 6, #33,4).

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Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polaert et al. as applied to claim 1 above, and further in view of Maeda et al..

Polaert et al. discloses a similar head however fails to disclose the materials of the cores. Maeda et al. discloses an optical toothbrush with fiber cores contained therein wherein the cores are constructed from a transparent plastic material and sheath having a metal as the reflective material (col. 2, lines 41-46). It would have been obvious to one of ordinary skill in the art that the fibers of Polaert et al. would have a construction similar to that in Maeda et al. in order that it may function as an optical fiber.

13. Claims 5, 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polaert et al. as applied to claim 1 above, and further in view of Hulke et al..

Polaert et al. discloses a similar toothbrush head however fails to disclose how the head is constructed.

With respect to claim 5, Polaert et al. discloses the head being a monolithic body (fig. 6, from #17 rightward). Hulke et al. discloses a toothbrush head having a light transmitting core wherein the head is constructed from a transparent material coated with a reflective material (col. 3, lines 53-57). It would have been obvious to one of ordinary skill in the art to provide the head materials of Hulke et al. on Polaert et al. to allow for the most effective transmission of light there through.

With respect to claim 14, Hulke et al. discloses a toothbrush head having a light transmitting core wherein the bristle surface of the head has bristle-free areas to allow radiation to pass there through (col. 3, lines 11-27). It would have been obvious to one of ordinary skill in the art to provide the 'windows' of Hulke et al. in Polaert et al. to allow for a broader area of light transmission for coverage of more of a tooth surface.

With respect to claim 17, Hulke et al. discloses a toothbrush head having a light transmitting core wherein the head is molded (col. 3, lines 38-40). It would have been obvious to one of ordinary skill in the art to construction the head on Polaert et al. by way of injection molding, as disclosed in Hulke et al. because it is a known means to construct plastic devices.

14. Claims 7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polaert et al..

Polaert et al. discloses a similar head however fails to disclose the sheath material.

Polaert et al. discloses the core being constructed from PMMA (col. 5, lines 15-18). It would have been obvious to one of ordinary skill in the art to determine the most appropriate sheath material in Polaert et al. to allow for the greatest flexibility and light transmission.

With respect to claim 9, it would have been obvious to one of ordinary skill in the art to determine the most appropriate bend configuration in Polaert et al. to allow for the most effective light transmission.

With respect to claim 10, it would have been obvious to one of ordinary skill in the art to determine the most appropriate cross-sectional dimension of the core in Polaert et al. to allow for optimal light transmission without affecting the integrity of the head.

Conclusion

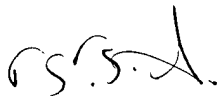
15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brenman, Massholder et al. and Neuberger et al. disclose toothbrushes having a light transmissive heads. Putnam, DE29704185, EP0774235, WO99/59462(US 6,485,300) and WO98/10711(US 6,026,828) were cited by Applicant in the specification. Levy is the US equivalent of EP0593375, as cited on the IDS of paper # 6 and Polaert et al. is the US equivalent of WO97/01298, as cited on the IDS of paper #6.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa T. Snider whose telephone number is (703) 305-0554. The examiner can normally be reached on Monday-Wednesday (6:30AM-3:00PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Warden can be reached on (703) 308-2920. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 879-9310 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Theresa T. Snider
Examiner
Art Unit 1744

TTS
April 30, 2003